

Clarification of the evidence or absence of neuroinflammation in PANDAS/PANS through a multicentre international study

Background: PANDAS and PANS are acronyms for acute neuropsychiatric disorders such as obsessive compulsive disorder (OCD) in which an inflammatory basis has been hypothesized, the first one triggered by a group A streptococcal infection. However biological studies have failed to show that the symptoms of children meeting PANDAS/PANS criteria have a clear immune basis. There is also no strong evidence for the use of antimicrobials or immunotherapy in these patients. In fact, response rates to psychiatric intervention appear to be similar to those of non-PANDAS/PANS associated OCD. Studies of immunotherapy have produced inconsistent results. For example, randomized clinical trials suggest little difference in outcome between placebo and immunotherapy (either intravenous immunoglobulin or plasma exchange).

Objective: To clarify whether or not there is inflammation in the nature of pathogenesis involved in PANS/PANDAS through a European multicenter study.

Methods:

Recruitment of children (<18 yo), who fulfill PANDAS/PANS criteria (*Table 1 and Table 2, see below*). Clinical data obtained by standardized questionnaires.

Serum/CSF samples, better if recollected before starting immunotherapy, will be analyzed for antibodies against cell surface and/or synaptic proteins, using:

- Immunohistochemistry on rodent brain tissue
- Immunocytochemistry on dissociated rat hippocampal and basal ganglia neurons
- Specific cell-based assays.

Additional studies would be considered.

For more information about type of samples needed and how to send the samples contact us:

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Table 1: PANDAS Diagnostic Criteria. (Swedo et al. 1998).

All five diagnostic criteria must be met:
1) Presence of obsessive-compulsive disorder (OCD) or a tic disorder
2) Prepubertal symptom onset
3) Acute symptom onset and episodic (relapsing-remitting) course
4) Temporal association between Group A streptococcal infection and symptom onset/exacerbations
5) Associated with neurological abnormalities, (particularly motoric hyperactivity and choreiform movements)

Table 2: PANS criteria describe a clinically distinct presentation, defined as follows. (Swedo et al. 2012).

I. Abrupt, dramatic onset of obsessive-compulsive disorder or severely restricted food intake
II. Concurrent presence of additional neuropsychiatric symptoms, (with similarly severe and acute onset), from at least two of the following seven categories: <ol style="list-style-type: none">1. Anxiety2. Emotional lability and/or depression3. Irritability, aggression, and/or severely oppositional behaviors4. Behavioral (developmental) regression5. Deterioration in school performance (related to attention-deficit/hyperactivity disorder [ADHD]-like symptoms, memory deficits, cognitive changes)6. Sensory or motor abnormalities7. Somatic signs and symptoms, including sleep disturbances, enuresis, or urinary frequency
III. Symptoms are not better explained by a known neurologic or medical disorder.